Math 0230 **Quiz 5**

Fall 2014 **Your name:** _____

Time: 20 minutes **Your TA's name:** _____

No calculators, no notes, no books are permitted.

SHOW ALL WORK (no work = no credit). Write neatly. Simplify your answers.

---

1. [5 points] Determine whether the series is convergent or divergent. If it is convergent, find its limit.

$$\sum_{n=1}^{\infty} \frac{1}{n(n+1)}$$

2. [5 points] Determine whether the series is absolutely convergent, conditionally convergent, or divergent.

$$\sum_{n=1}^{\infty} \frac{(-1)^{n-1}}{n+1}$$

bonus problem [5 points extra] Find limit of the series.

$$\sum_{n=1}^{\infty} \frac{3^{n+2}+2}{5^n}$$